Asphalt Plant Aggregate Moisture vs. Hot Mix Asphalt Production Potential Guidance

Asphalt plants should conduct source tests at the maximum capacity possible considering effects of aggregate moisture on actual production. The maximum allowable production rate will be calculated for each facility based on actual production and aggregate moisture recorded during the source tests. This allowable rate will be included in the source test summary sheet prepared and submitted to the facility by the Department.

For aggregate moisture ? 5%:
The production potential for facilities that conduct source tests when aggregate moisture is ? 5% will be calculated according to the following equation:

Production Potential (TPH) = Actual Production Rate (TPH) x 1.15

The maximum allowable production rate is equal to either the production potential or the rated capacity, whichever is less.

For aggregate moisture > 5% and actual production < rated capacity:
The production potential for facilities that conduct source tests when aggregate moisture is > 5% and the actual production rate is less than the rated capacity of the facility, will be calculated according to the coefficients in Table 1 and the following equation:

Production Potential (TPH) = Actual Production Rate (TPH) x Decreased Production Coefficient

If the production potential is ? 85% of the rated capacity, the maximum allowable production rate is equal to the rated capacity of the facility. If the production potential is < 85% of the rated capacity, the maximum allowable production rate is equal to the calculated production potential and the facility cannot exceed this rate regardless of subsequent daily aggregate moisture values, without retesting to confirm compliance at the increased production rate.

If the above process is followed, Department inspectors and plant operators do not have to monitor daily aggregate moisture and only need to ensure that facilities do not exceed the maximum allowable production rate determined during the most recent source test.

Table 1

Source Test Aggregate Moisture (%)	Decreased Production Coefficient
4	1.00
5	1.00
6	1.13
7	1.23
8	1.32
9	1.38
10	1.44
11	1.49
12	1.53

Example 1: An asphalt plant with a rated capacity of 300 TPH conducts a source test while operating at 270 TPH with an aggregate moisture of 4%. What is the maximum allowable production rate the facility can reach without retests being required?

Production Potential = 270 TPH x 1.15 or **310.5 TPH**

Since the production potential is greater than the rated capacity, the maximum allowable production rate can reach at any time and at any aggregate moisture content is **300 TPH**.

Example 2: An asphalt plant with a rated capacity of 300 TPH conducts a source test while operating at 190 TPH with an aggregate moisture of 7%. What is the maximum allowable production rate the facility can reach without retests being required?

Production Potential = 190 TPH x 1.23 or **234 TPH**

Since the production potential is less than 85% of the rated capacity (234 ? 300 x 100 = 78%), the maximum allowable production rate the facility can reach at any time and at any subsequent aggregate moisture content without retesting to confirm the compliance status, is **234 TPH**.